

# **IMPACT OF TSUNAMI ON PLACES OF EAST COAST PLACE MAKING IN RESETTLEMENTS AT MARUTHAMUNI**

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(Architecture)

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## **ABSTRACT**

Societies in human settlements evolve and establish with an order and an organization. Such societies have specific characters, unique identities and an image, which represent their relationship with the context.

M,Physical context where these societies evolved is more important because of an individual's or societies social, psychological or physical attachment to it. Built environment in it, express the socio culture, socio-economy and the image of each Society.

. Disasters can completely destroy such established order and organization of a social context as well as building typologies and place morphology in a physical context. The consequence after a situation of a disaster will be displacement or reset emen t the disaster victims.

In such disaster situations the state sector and social organizations take immediate emeasures to provide shelter and necessary physical needs. Consideration given to sociological and psychological need of disaster victims is more significant, hut often focus on the quantitative needs of shelter.

Tsunami, the monstrous tidal waves that engulfed coastal areas of north east and south of Sri Lanka wiped out many human settlements and claimed thousands of precious lives. This nature's fury left the devastated coastal region dazed.

Therefore re-housing the societies is a complicated issue. Professional designers have to identify social issues of each society and consider architectural aspects to submit design solutions in resettlement process. This study is to identify the social issues of a particular society of a tsunami devastated settlement in Sri-Lanka.

## DECLARATION

I declare that this dissertation represent my own work. Except where due acknowledgment is made and that it has not been previously included in a thesis , dissertation or report submitted to this university or any other Institute for degree, diploma or other qualification.

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## INTRODUCTION

Human being has to face catastrophic situations in his survival. Disasters can cause deep impacts on geography and human ecology. Devastated tangible and intangible resources, heritages or social values, which preserved cannot be fully recovered. Disaster as an event of nature or human act is not always predictable and inevitable.

Eventually earth causes to changes in its geography and weather. In such circumstances natural disasters may occur. 'Tsunami' is a natural disaster, which occurs due to a train of sea waves triggered off due to a sudden collapse of ocean floor. Tsunami as a denouement of natures drama was great ocean waves, ravaged several coastal settlements with the evolved societies in Sri Lanka in the early hours of 26<sup>th</sup> of December 2004.

Ampara district in the eastern province of the island is one of the most effected areas in which some coastal belt villages were entirely washed away by the rampaging waves. 'Maruthamunai' is a worst hit settlement in the coastal belt of Ampara district in the magnitude of deaths, displaced and property lost.

The post – Tsunami relief and rehabilitation work in the devastated coastal region of Ampara district particularly in 'Maruthamunai' appears to be under way with the large scale participation of international agencies.

It can be seen the lack of awareness among the helping agencies of the qualitative needs of re-settlement, in terms of the nature of the settlements lost, the social order and organization that was lost, and the building typologies and the place-morphological understanding that were lost. The focus has been compensating the number of houses lost rather than rebuilding the societies.

Building settlements for tsunami victim is a great endeavor, undertaken by the government and social organizations. In the process of planning housing settlements, relevant authorities and institutes, articulate policies and academic disciplines focusing quantitative issues and physical aspects only. Authorities are in favor of displace or shift the settlement to a safety area leaving a reservation along the sea shore. However re housing the societies in settlements is a complicated situation.

Resettlement planning does not mean provide shelter or physical aspects for a society. Attention should pay on social issues and qualitative aspects of each settlement.

Observations have revealed in most of the situations resettlement plans were not successful. Societies may refuse settlements not in appreciated locations where they not found a 'sprit of place'. If they fail to dwell in it, those settlements will be abandoned

Therefore re-housing the societies is a collective fulfillment of sociological and psychological aspects. Professional designers have to identify social issues of each society and consider architectural aspects to submit design solutions in rebuilding the Tsunami devastated settlements.



## SIGNIFICANCE OF THE STUDY

Societies are different to each other in socio-culture, socio-economy, identity and locality. Therefore re housing is a complicated issue. A typical design solution in place making process cannot apply in all resettlements. In this context place making is essentially situation oriented. Professional designers have to consider different qualitative aspects in settlement planning for each society.

Therefore it is important to study, historical back ground, socio culture, socio economy of the particular settlement and examine the present scenario of devastated settlement to identify critical issues to ensure the significance of 'Place Making' process in resettlements.

Analytical studies of several tangible and intangible aspects of human settlements lessens of devastations will provide insights and empirical supports in place making process in re housing the tsunami victims in settlements.

Unauthorized and a haphazard development pattern could be seen in these destroyed settlements. In the mission of resettlement, this is an opportunity to create a better-built environment with infrastructure facilities enhancing social relevance and improving living standards.



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## AIM AND OBJECTIVES

As a result of disaster effected people has to be displaced and rehabilitated. State sector and social organizations consider the quantitative issues provide shelter and physical needs, social and psychological needs of societies, not considered.

Societies do not perfectly satisfy if they are not psychologically comfortable in settlements. Lost 'places' to which people are mostly attached must replace in new settlements. 'Place Making' process should revive sociological and psychological means of 'place'. Hence this study is to identify, peculiar characters of the specific society and to discover the lost places of particular devastated settlement, which will be linked to 'Place Making' process in rebuilding the settlement.

Specifically looking into the undue attention paid on quantitative issues of re housing in settlements and ignorance of qualitative aspects housing settlements. This phenomena has a little connection with the current critical studies of resettlement and its architectural aspects, present day evolution patterns of the local societies particularly in a situation of a society recovering from a natural disaster and the desired development levels of the socio economic landscapes in the local context.



## METHODOLOGY

Historical and morphological analysis of the particular settlement is the first step of the study. Historical sources referred to trace particulars to explain the historical background of settlement in expatriation. And then identified 'Peculiar Characters' of sub cultures of the society.

Disaster situations and impact of disaster on social and physical context will be generally discussed. Particularly devastation of Tsunami on eastern province will be further discussed.

Location, physical dimensions of settlement is surveyed. Nature and type of the physical context is examined through a photographic study. Through explorations discovered the places and locations of the settlers, which is lost due to devastation of Tsunami.

State sectors and social organizations have taken immediate measures in the mission of re housing the tsunami victims. In this process different data sheets and reports are prepared. Such documents and articles published in journals are some sources of information. Conducted interviews for key information among tsunami victims, people of different subcultures, volunteers and stakeholders who are involved in resettlement projects.

Basic design principals are examined to highlight the critical connections between lost 'places' and 'Place Making' process in new settlements.

Last step of the study is, the present situation of the devastated settlement is examined. Being as a participant of different occasions, through the process of observations, certain critical issues of disaster victims are identified.

Examinations and typological analysis took place in the on going construction works of post tsunami house types which has been funded by different social organizations. Also observed, 'Settlers' participation in self 'Place Making' efforts in rebuilding the settlement after the devastation.

## SCOPE AND LIMITATION

Disasters occur as events of nature and as human act. Disaster of tsunami as an event of nature is the great tragedy that left the country dazed. Therefore this study is based on impact of Tsunami on social and physical context.

Societies are different in socio-cultural aspects. Identification of critical issues in different destroyed settlement is essential in 'Place Making' process. Hence individual examination and research activities must be carried out in each society of



devastated settlements. Devastation is severe at densely populated east coast, in its nature and magnitude.

Due to time limits, and other practical constraints this study is focused to 'Maruthamunai' a coastal settlement in Ampara district in eastern province. A completely destroyed settlement in which a Muslim society with several sub cultures evolved and a way of life perfected.

Intention of the study is to highlight the significance of 'Place Making' in resettlements. Therefore basic design principal in 'Place Making', which is applicable in any situation of resettlements, is included to the study.

A few number of houses are already built in the post Tsunami housing projects at Maruthamunai . Such built house types are examined.

Due to threat of terrorists and ethnic conflicts, could not reach the Tamil settlement at the northern border of Maruthamunai to examine the post Tsunami housing projects.



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## Chapter One

### MARUTHAMUNAI A SETTLEMENT ON EAST COAST

'Maruthamunai' is a densely populated Muslim village situated on coastal belt of Ampara district in the Eastern province of Sri-Lanka. The population was about 21000 in an area of half square mile, before the disaster of Tsunami .

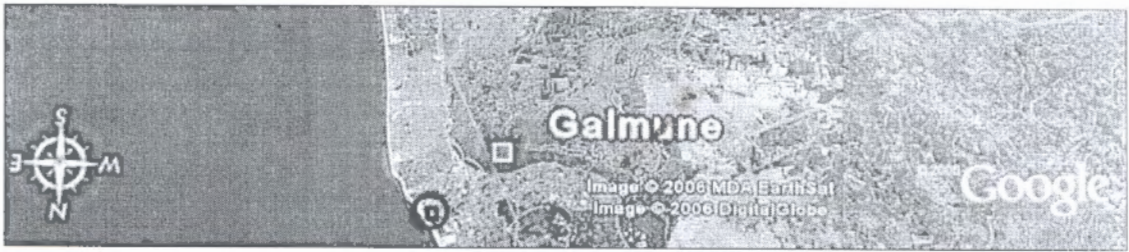


Fig 1.1 Satellite Image of Maruthamunai and Kalmunai (Galmune)

#### 1.1 HISTORICAL BACKGROUND

During the period of Sinhala kings , human settlements were built at every ten mile distance along the main roads in the country. In the eastern province main roads along the sea side made junctions with the rural roads from interior . Kings built settlements at these junctions and provided necessary facilities . Kalawanchikudi , Karaitheewu, Pothuwil and Maruthamunai are settlements which built by kings.

'Maruthamunai' is located to the south of Baticaloa. Maruthamunai is a Tamil word which means 'Point of Kumbuk tree'. Earliest settlers were Tamil fishermen. They tied their fishing boats to Kumbuk trees, returning from Baticaloa lagoon. Kumbuk trees were well grown all over the geographical points on the lagoon.

In the fourteenth century AD , about 550 years ago a person called Aboobakr Ali and his cousin Chairman haji landed at Baticaloa with their families from East Indian island due to political reasons. From Baticaloa , they were traveling by boats seeking a appropriate place for dwelling, saw a human settlement in a place called Thuraineelawanei. It was a place where travelers often crossed and fishermen daily visited. Finally Aboobakr Ali and his family took refugee in this settlement.<sup>1</sup>

Roots of survival of these people was weaving. They had no experience in fishing or in traditional agriculture. They needed to cultivate cotton to prepare raw material for weaving industry. Lands in Thurainilawanai was not suitable for cotton cultivation and water resources was not available.

But they found Maruthamunai, suitable for cotton cultivation. Tamil fishermen found difficulties to sail boats from Maruthamunai to Baticaloa passing Thuraineelawanci.

Finally Muslims and Tamil fishermen negotiated and agreed to exchange their settlements. This caused to derivation of a Muslim settlement in Maruthamunai. During the kings period had no any strict rules existed in the matters of agreements, therefore land exchange matter was easy for them.

People from other small settlements abandoned their places and settled in Maruthamunai. Eventually, South Indian Muslims particularly from Keelak karai arrived at east coast for religious activities and trade. Most of them never returned. They married to Tamil ladies and lived in Muslim settlements. Arabs and Pattanies are the other societies arrived and settled with Muslims. Gradually population of Maruthamunai increased.

In 1520 AD, Portuguese who conquered the island attacked the Muslim settlements on western coast of the island. They destroyed the properties and trade links and chased them to the interior of the island. Kandyan Sinhala king protected a number of four thousand Muslim refugees and provided lands in the eastern province which was a region under his rule.<sup>2</sup>

There was no colonial rulings up to Kottakallaru. Maruthamunai never came under Portuguese or Dutch rule. It was a free territory of Kandyan Kingdom till 1815. In 1815 entire island came under British rule.



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## 1.2 MORPHOLOGICAL ANALYSIS OF PLACES

Aboobakkar Ali, popular as Periyarasa appa built a cadjan shed to be used as a Mosque in the settlement. This was the first religious and public building of Maruthamunai settlement. Mosque was named as Awakkaliyappa palli. People planted Banyan trees around the mosque for shelter. During festival seasons and ceremonies villagers gathered under banyan trees and celebrated collectively.

Later on the mosque was constructed of wooden pillars and thatched roof. An elevated land to the north of the Maruthamunai settlement used as burial ground and banyan trees were planted for shelter. The forest next to the burial ground supplied fire wood and timber to the villagers. When the settlement was expanded toward the north a land was allocated to burial ground at the beach side.

During heavy rain Bticaloa lagoon got filled with water and low-lying areas succumbed to regular floods. In 1830 District Revenue Officer (D.R.O) of Bticaloa district constructed a bund to block the rain water entering the town and collect it to irrigate the paddy fields during drought seasons. The government offered land to people of Maruthamunai for agricultural activities.





In 1874 government cleared and plotted forest lands at north and east of old burial ground and sold to the public. Muslims bought these plots of land and shared among themselves. Olikkeni and Alangkeni are other areas purchased by Muslims and annexed to Maruthamunai.

British government planned to develop irrigation systems and roads. The road towards south from Baticaloa was a sandy road. In 1833 constructed the south coastal road. Thereafter several shops and boutiques mushroomed in the settlement and paved the way for further development.

Low-lying land between the old burial ground and beach got filled with water during rainy seasons. Government dug a trench between the beach and village border for the rain water to flow easily in to the sea. Land on either side of this canal developed and settlement further expanded reaching the sea shore. In 1963 'sea side colony' was established. Periyanceelawanai was completely inhabited by Muslims and as a result Tamils communities either side of the main road sold the properties to Muslims and moved out.<sup>3</sup>

### 1.3 SOCIO -CULTURE

Maruthamunai is populated with Muslims, no any other communities lived. Mother tongue of this society is Tamil. Mainly four type of subcultures are evolved in this settlement.

- a. Sarong weavers
- b. Paddy cultivators
- c. Traders
- d. Fishermen

Educated people were employed in government sector and private sectors. Most of the females are not employed and live as a humble house wife.

No any segregations could be seen among these sub cultures except their root of survival.

All are equal in the society in any occasion. High respect is paid to Maulavies and for the people who gives for charity. Maulavies are the people who are known as clergy.

All the families are governed by the mosque as a center at particular location. Wealthy personalities who give for charity and educated people who have influential hands were selected as the trustees of the mosque. Trustees are leaders of the society. The board of trustees of the mosque is controlled by the 'Society of Maulavies'.



Problems and cases of the society is brought to the attention of the inquiry committee of the trustee board. Decisions are taken and judgments are given by the board of trustees is forwarded to the 'Society of Maulavies' for approval.

### 1.3.1 Family Structure

A male dominating family system is prevalent. Sons helps their father in his paddy field, shop or in fishing. If they get married they have to stay with wife's family. Sometime marriage proposals take place within the same settlement. Son in law has to look after the parents of his wife.

Daughters are not employed. Daughters get married and stay with parents. Parent's house belongs to last daughter. At the same premises houses are built for other daughters. One well is used for all the housing units, only one gate exists for the premises. If there are any other resources in the premises like, cattle shed, coconut trees and bull lock cart etc, they are used by all inhabitants. No any boundaries demarcated between housing units. In ancient times, neighbors demarcated the boundaries of plots by planting jungle trees and covering the live fence with palm leaves or cadjans. In 1839 D.R.O introduced the laws of possession of lands and wire fence in this region. Later begun to construction of parapet wall between two plots

Extended family system is still existing in eastern province. Housing units are constructed as compounds within same premises. Weaving industry and fishing activities take place out side the housing units. All members of the family are involved in it.

Paddy cultivators gather their female members to take part in field works. At home they involved in cleaning, drying, storing paddy and in rice production work. Farmers reared cattle for milk and agricultural activities.

### 1.3.2 Cultural Activities

During fasting in month of Ramadan both male and females gather at the mosque for night time prayers. After the prayers males gathered in public places and at the beach. Visitors and relatives are most common in all the houses during this season.

Festivals are celebrated continually for two or three days. Public places and the sea shore filled with villagers. Evening hours villagers enjoy playing traditional games in the beach and play grounds. Annual Feasts and other ceremonies take place in mosques. Food items for all the visitors are offered in the mosque. One mosque is specially crowded by pilgrims of other areas.



Marriage ceremonies take place at home. Relatives and invited people gathered at home where the bride and bridegroom stay . Meals served at other houses of the same compound. When the spaces or place is not sufficient they occupy the neighboring premises. Funeral and other special occasions also take place in this same manner. Eastern province was faced with many Indian influences from ancient times. Tamils are the only community they have to deal with. Therefore other cultural impacts can be seen in the Muslim society .

Sea beach is crowded in evening hours with villagers coming to spend their leisure and for interaction. Certain mosque in east coast built in the sea side .Minarah of mosques become a land mark and it could be seen from the land and sea. After prayers people gather to the beach which out side the mosque premises.

## 1.4 SOCIO –ECONOMY

### 1.4.1 Weaving Industry

Earliest settlers of Maruthamunai were weavers and cotton cultivators. Woven cloths were sold in village fair. People from out stations came to buy cloths in the fair. Whole sale merchants carried large quantity of cloths to other parts of the country by caravans.

At a certain phase of the weaving industry government imported raw materials from India at a low cost. As a result cotton cultivation was abandoned. In 1940 ,government started a weaving school to train technicians and skilled labors. During world war –II imports are dropped and had a very good demand for local clothes. This was the golden era for weaving industry. In 1947 private sector started weaving mill on a large scale in many places in eastern province.<sup>4</sup>

Up to early nineties of recent past, weavers of Maruthamunai were able to produce quality sarongs. Due to free market policy Indian sarongs flooded the market hence local sarong industry is declined.

Female members of the society were involved in weaving. They weaved mats, containers and other households out of cadjan and palm leaf.



Fig 1.2 Cotton Sarong weaving industry at beach side - Character and Identity of place

Maruthamunai is famous for hand loom sarongs. Sarong industry is the 'identity' of the place and the people of Maruthamunai. ( Fig 1.3 & Fig 1.4 ).



Fig 1.3 Drying coloured cotton threads



Fig 1.4 A female weaver

#### 1.4.2 Agriculture

A sub culture of the societies of Maruthamunai is paddy cultivators. Western part of the village have paddy fields. They have paddy fields in far off from their village. They produced a considerable amount of harvest in Ampara district.

Paddy fields in the village border were cultivated from ancient period . The soil condition of those paddy field became very poor for further agricultural activities. Those paddy fields have become marshy lands now.(Fig 1.5 ).

Due to ethnic conflict and terrorist activities in eastern province people of Maruthamunai can not continue agricultural activities in their lands in far off areas. Paddy fields near Tamil villages were abandoned.



Fig 1.5 Abandoned paddy fields – cultivated during centuries

Coconut plantation can be seen on sea side and in some lands in interior of the village.

Several years ago tobacco cultivation has taken place in certain areas in Maruthamunai. Cultivators could not find a good market for their product.



#### 1.4.3 Trade Activities

Traders of Maruthamunai carried textile, dried, fish, salt and tobacco to other part of the country by caravans. While returning they brought honey, coffee, crops cultivated in Chennai and medicines to eastern province.

South Indians built shops and engaged in local trade and in export activities. They collected inland products and exchanged goods with sailors who reached east coast. Some products directly exported to India.

In 1925 British government extended the railway services up to Batticaloa. Merchants in Maruthamunai purchased goods in Colombo and Polonnaruwa, transported by rail and distributed in eastern province. Links between Maruthamunai and other towns further developed. Farmers supplied paddy from eastern province to rice mills in other parts of the country.

#### 1.4.4 Fishery

Long time ago during seasons Sinhala fishermen came to Kalmunai for fishing. Some Muslims joined with them as helpers. Those fishermen accompanied the helpers to the sea. This is how Muslims learnt fishing in the deep sea.

A subculture of Muslim societies involved in fishery. Settlers of beach side of Maruthamunai are fisher folks and boat owners. (Fig 1.6).



Fig 1.6 Fishermen at east coast

#### 1.4.5 Cattle farms

Farmers rear cattle for agricultural activities and for milk. There are heard of cattle belongs to people who rear them for milk and milk related products. Curd and ghee are such product marketed in many towns.

#### 1.4.6 Export of manpower

Present days there is a good demands for man power in middle east countries. Muslim house maids have good employment opportunities in Arab countries. Due to financial difficulties and other social issues female members of families from very poor back grounds employed in Middle east.





1.5 BUILT ENVIRONMENT AND PLACES OF PEOPLE

1.5.1 Grid roads and Plot arrangement

Roads are connecting the beach to the main roads. All roads are parallel to each other and perpendicular to main road. These roads are crossed by accesses making sub grids. All the land plots and buildings are arranged within this net work system of roads. All plots are sandwiched between the sea shore and the town. ( Fig 1.7 ).

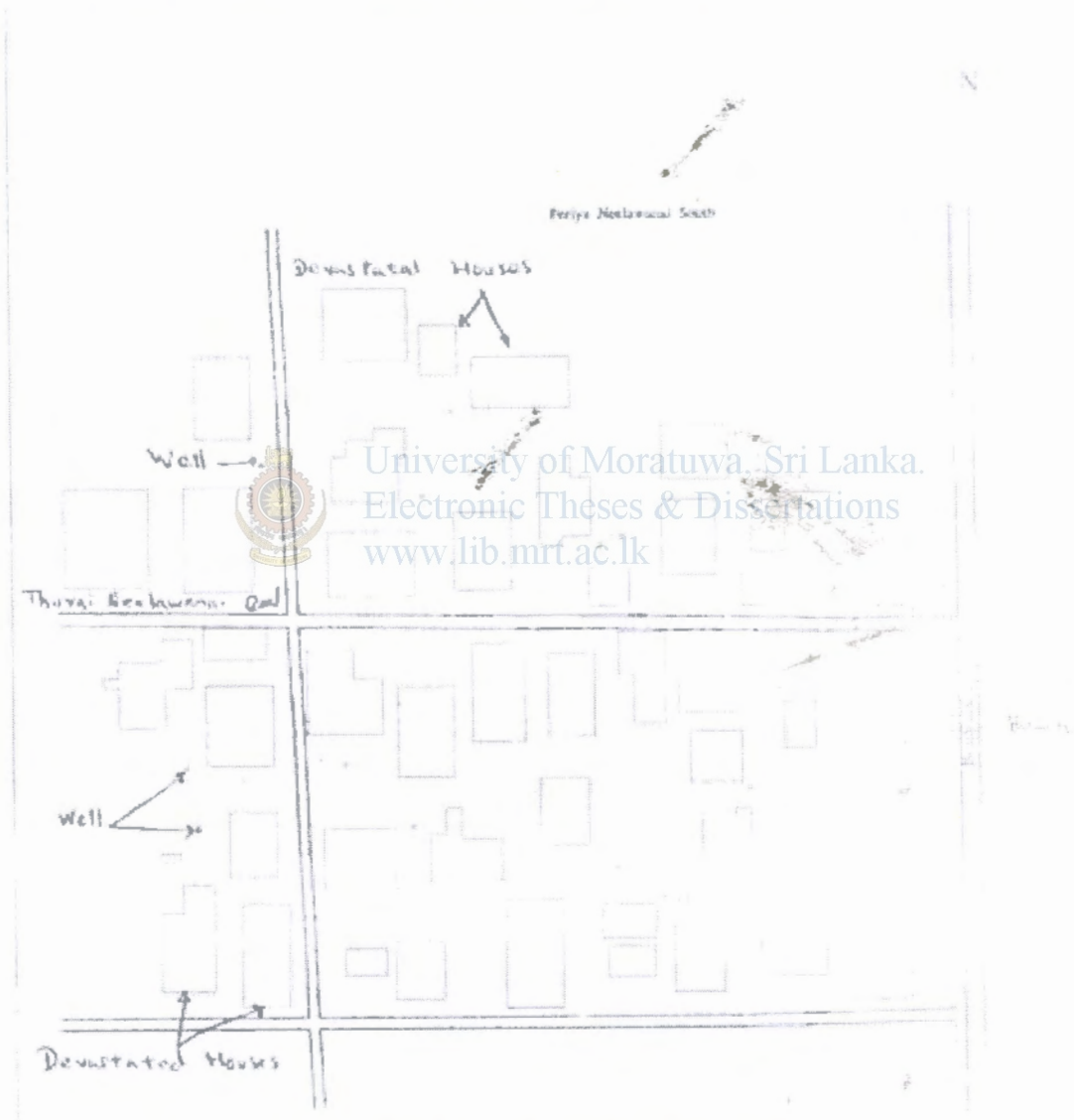


Fig 1. A part of the map of Maruthamunai North  
SCALE: Two Chains = One Inch

Fig 1.7 A measured drawing - after the Tsunami

A plot contain two or more dwelling units for each nuclear family. Therefore a compound of dwelling units in a premise is the special character of Muslim society in the eastern province. Extended family types can be seen in many house hold units.

Layout plan of macro context indicates critical issues of built environment and in other physical aspects. A haphazard development pattern could be seen in the locality. Building regulations are not applied. Due to unplanned plot and building arrangements there exist no means of evacuation the settlers in an emergency situation and also difficulty in providing better infra structural services. High density of people, lack of vegetation, lack of bare lands and environmental issues caused problems in both social and physical context in this settlement.

No any zoning systems available for building types or major activities. Small schools or other public buildings can be seen among dwelling units. A few residential buildings constructed up to three stories due to lack of land. Shops or small scale weaving mills are attached to certain dwelling units. Always small mosques are built at certain distances.

No any architectural works of professionals is identified. Engineers intervention can be seen in infrastructural services and in state owned buildings.



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#### 1.5.2 House and places of inhabitants

It is a psychological need of human being to attach himself to some kind of place. Most of the time this place is his house, so one's house always has a deeply rooted attachment with one's psyche. One's dwelling place, his house reflects his psyche, his aspiration and future expectations, his thinking and his day dreams.

Land use patterns and life style of the Muslims of eastern province is little bit different to the other Muslim societies of the country. Certain 'peculiar characters' is still existing in the Muslim societies of eastern province.

A land plot contains several cluster houses of own sisters as a tradition. One house contains extended families. Frontage of these houses is a bare land. It belongs to all inhabitants for interaction of males and for the children to play. Demarcation of boundary at front is done by palm leaves or cadjan on jungle timber frame work. One entrance gate exist for all these houses at the premises. 'Territoriality', 'sense of enclosure' and 'sense of possession' is quit visible. ( Fig 1.8 ).



Fig 1. 8 Bare land at frontage of cluster houses

Rear portion of the plot left for out door activities and interaction of females of extended family and villagers. During a funeral or other special occasions ladies gather at out door rear space. The well , dark kitchen or a temporary shed built at rear for the use of all the cluster houses.( Fig 1.9 ).



Fig 1.9 Shed built for weaving industry

Middle portion of the most of the land plots created, surrounded by cluster houses of extended families, for the well water and out door activities of female inhabitants and for the girls to play. ( Fig 1.10 ) .



Fig 1.10 Common bare land at the middle of cluster houses



A built-up fence at the boundary of two plots is always seen for separation rather than privacy. This demarcation symbolizes 'possession' .The privacy and 'sense of belongingness' also achieved within the territory. Females of the society always enter to the neighbor's house through the rear fence as a custom. This is to keep out of the vision of males.( Fig 1.11 ).



Fig 1.11 Built up fence between two neighbors.

### 1.5.3 Mosque the Center

Mosque is considered as the heart of the Muslim community .It is the center for all individuals and public religious affairs. All the mosques oriented towards the direction of Saudi Arabia where the holy city of Maccah situated. Mosque is a place people often visit for prayers. It is closed for a few hours late in the night and open rest of the time. Generally all mosque premises are occupied by people soon after prayers for interaction. Some people sat under trees to have meals. Mosque becomes a land mark of particular locality.

First mosque in the history of Maruthamunai is Awakkaliappa palli.The first religious and public building was built by first settlers, in latter part of 14<sup>th</sup> centaury. It was a cadjan shed and later constructed as a permanent structure. In 1912 the mosque was reconstructed.

In 1862, when the settlement is highly populated and developed another mosque was built and named as Thentheru palli .In 1978 this mosque was reconstructed ,but cyclone in 1978 caused damages to it again.





Fig 1.12 Masjidhun Noor mosque at Maruthamunai town

The minarah of the mosque of Kalmunaikudi is quit visible from the southern end of Maruthamunai and from sea during day and night. Minarah is a land mark and creates an “image of the place” the in the minds of Muslim societies in other parts of the country. ( Fig 1.13 ).



Fig 1.13 Minarah by night



Fig 1.14 Minrah and Kalmunai kudi mosque at the beach

Mosques are built at close intervals and all subcultures often gathered in mosques for prayers. Muslims attend for prayers five times a day. If the spaces inside the mosque is not sufficient for congregational prayers at a particular location another mosque is built at same location. Therefore many mosques can be seen in a Muslim settlement.

Mosque is the ‘spiritual center’ and ‘cultural center’ of any Muslim society. Mosque , Collegiate mosque and in its premises is a compound of religious activities. A strong brotherhood and social interaction developed and promoted .

### Madrassa the collegiate mosque

Higher studies of Islam ,Arabic language and other general subjects are taught here. Student from the same locality or out station are boarded here for the full time course. Food and other services are provided. This type of institutions are completely isolated from public interaction.

Individual shop units are common near by a mosque. It becomes a 'commercial center' too. ( Fig 1.15 ).



Fig 1.15 Shops out of the mosque premises at the junction where grid roads meet

#### 1.5.4 Continuity of buildings along roads

Continuity of houses both side of the road rarely left a gap or bare land between houses. The grid roads continue from the town or 'commercial center' to the beach crossing several sub grid roads. A Linier development is continued till the beach .Grid roads and sub grid roads run parallel to each other and follow the same pattern of development .

#### 1.5.5 Type of enclosures within the settlement

Generally in a Muslim settlement , a mosque become the spiritual center. Mosque, a collegiate mosque , other building units and a burial ground are found within the same land enclosed by a parapet or continuity of houses.( Fig 1.16).





Fig 1.16 Premises of the Oormunai mosque at Jeelan school road

All cluster houses within a plot enclosed by built up fence or parapet. All plots are in between grid roads or sub grid roads, separated by a continuous parapet on the road side for security and privacy. Different style of parapet indicates , 'identity' , sense of belongingness' and 'sense of possession'. ( Fig 1.17 ).



Fig 1.17 Quarter of Maulavi of Oormunai mosque

#### 1.5.6 Characters and spirit of places in the settlement

Masjidhul Hudah old mosque with extension , old Banyan tree ,play ground of the Shams central college which is situated at the end of Zam Zam road near the beach is one of the special 'character' of the settlement. Due to the shade , sea breeze and 'spirit of and place' this place is most attractive to the settlers. Evening hours people gathered for games and to purchase fresh fish at the beach. ( Fig 1.18 ) .



Fig 1.18 Mosque , play ground and the beach at the end of Zam Zam road

Noorani mosque at the end of a grid road is surrounded by paddy fields. Farmers relaxed under the coconut trees planted around the mosque. This is a quiet place and exposed to views and breeze over the paddy fields. Farmers of early stages gathered here due to spiritual and peaceful environment provided here. ( Fig 1.19 ).



Fig 1.19 Noorani mosque near by the paddy fields

#### 1.5.7 Record of natural disasters which effected Maruthamunai and east coast

In the history , eastern province caused to many disaster situations. In 1978 ,the cyclone completely destroyed the human settlements at the eastern province.

1. 1845 – Cyclone

2.From 1907-3-9 1 a.m to 1909-3-10 8a.m cyclone. Little damages to Lady havlock

ship at Kalkuda harbor. The ship Abdhul Hameedh was destroyed at east coast.

3.1922- Cyclone and flood

4.1957 Dec 25 flood

5.1978 November 23d -cyclone

6.26-12-2004 - Tsunami



Fig 1-20



Fig 1.20 Devastation of cyclone which effected Maruthamunai in 1978

Map of Maruthamunai



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Fig 1.21 This figure indicates a part of the Map of Maruthamunai . Full Map is attached to the final page .



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## IMPACTS OF DISASTERS ON SOCIAL AND PHYSICAL CONTEXTS

### 2.1 DISASTER AS A FORCE OF DESTRUCTION

By its definition, disaster is an event located in time and space which produced the conditions whereby the continuity of the structure and the process of social units become problematic. Disaster agent may differ as to their cause, frequency, controllability, speed of onset, length of forewarning, duration, scope of impact and destructive potential.

Disaster can be classified into two categories, natural and man made, which could be sudden or progressive. Natural disasters incorporate categories like hydrological such as flood, storm, tsunami etc.; meteorological such as hurricanes, cyclones, typhoons or tornadoes and geographical such as earthquakes and volcanoes. Man made disasters encompass war, civil strife, fire, explosions, mining catastrophes and damage, contamination of air, water, soil, large scale traffic accident on earth, water and air etc.

Disasters can happen as a result of occurrences of a single phenomenon giving rise and causing the occurrence of further disastrous events. The extent and the characters depend on the nature of the elements involved and on the resistance of a man made environment to these elements. Some disasters last only a few minutes during which incredible violence of a natural phenomenon leave behind a devastated landscape, others extended over many years in which the mark of violence may be hard to discern at any particular moment.

The sudden occurrence of disaster without any warning and the violence of movements, in a few seconds turn a prosperous town into a pile of rubble. This could be a threat to human life and property and ultimately leading to confusion and suffering of human life.



Fig 2.1 Flood in Rathnapura in 2003



Fig 2.2 Earth slip at Nanuoya in 2006



## 2.2 IMPACTS OF TSUNAMI ON SRI LANKA

Disaster of Tsunami waves on Sunday 26<sup>th</sup> December 2004, will be recorded as the worst natural disaster in the ever known history of Sri Lanka. The monstrous tidal waves that engulfed the coastal area of northeast and south of Sri Lanka claimed thousands of precious lives and unprecedented damage to property.<sup>1</sup>

The second hardest devastated country was Sri Lanka, where the government official report shows the death toll as 30,718 but the eventual figure is likely to be more. Ampara, Hambantota and Galle districts are among the most affected areas in which some coastal belt villages were entirely washed away by the rampaging waves.

### 2.2.1 Impact on Social Context

Disaster cause immense loss and pain both physical and psychological. But still the degree of sense of loss and pain, in psychological terms, is much more devastating in the case of man made disasters.

In natural disaster situations, man can do nothing. He accept it, as it is bound to happen. Here man sympathizes, as nature has no intentions, and man accept it.

Social and psychological impact of disasters, which could not be mended as easily as anyone, could ever think. Psychological impact could be of many individual reasons, or a collection of many. Loss of life of a member of the immediate family, relatives, friends could be one, a psychological pain that no one could get over easily. Loss or damage to the house or shelter, which is very personal to man, too can cause a great psychological impact on him.

Other than these factors there is something called 'community based belongings'. This is a social and psychological impact, caused by the physical loss, as the structure of the social life, culture, identity of people are the outcome of the entire physical and non physical belongings of the people of a community which gets affected by the act of disasters.

### 2.2.2 Impact on Physical Context

Physical context is the base to evolve settlements and create the built environment. Devastation on a physical context is a situation, which deletes the historical background, and land marks of it. It is a circumstance to change the geography of the place as well. Settlements, homes and places of the people can completely erase.

Disasters have claimed countless lives and caused enormous damage throughout the history. Other than lives disasters can suddenly damage or destroy personal belongings, shelters housing settlements and basic infrastructure production facilities at personal level and damages of place of worship, educational institutes other community buildings at a macro level of the society.

### 2.2.3 Impacts on Built Environment

Disasters whether natural or as a result of human act, inflict dramatic impacts on human settlements also in terms of destruction to the built environment.

Impact on built environment can cause in two ways. It can be a direct destruction of buildings and its components of built environment. Other one can be due to a disaster in a certain place, temporary or permanent displacement of people, from their home, neighborhoods and from places to which they belong, to other places too, create an impact on the built environment. The latter could be caused by the non-usage of the buildings and the deterioration caused by it.

There is no segregation between man and his environment, specially the built environment, because the built environment of man is subject to wide social, cultural and political influences. It reflects society and communicates the values of society. Architecture reflects the idea of the society. It is mans out look of life. It is the ultimate shape of mans desire, creative talent and achievement of science and technology.

Destruction to the built environment, is a possible way of causing an immense impact on man and the community to which he belongs. History of man and his world has clearly portrayed that in order to destroy culture , well being and moods of man of a certain society or country, destruction of the built environment has prevailed in that country. This has made implications in the society , because a disaster brings about drastic changes in the culture, the social structure and the identity of the community. Here it should be understood that the built environment is an intentional or unintentional product of architecture.



Fig 2.3 Maruthmunai after Tsunami Devastation



## 2.3 TSUNAMI DEVASTATION IN AMPARA DISTRICT

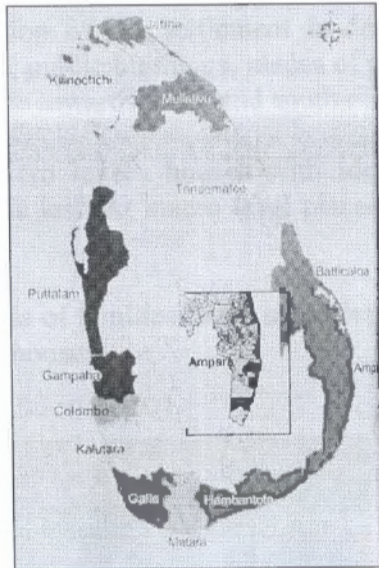


Fig 2.4 Map of Tsunami devastated Districts in Sri Lanka

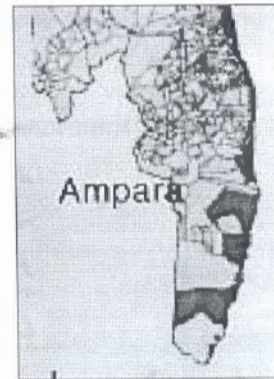


Fig 2.5 Demographic map of Ampara district

Ampara district is one of the worst hit areas of the island. With the tsunami IDP population of 107,885 the number of displaced person in the Ampara district equals the combined figure of the displaced in other districts. This means that the number of displaced in the Ampara district is equivalent to the IDP s of other effected districts together, given the ethnic breakdown of the district 41.59% Muslims ,39.33% Sinhalese and 18.7% Tamils. Also with 12,562 officially reported deaths due to the tsunami, the death toll in Ampara is even slightly higher than the other districts.

Muslims death toll in Ampara district is 7258 out of the total figure, 12,562. 14635 houses completely damaged.<sup>2</sup>

### 2.3.1 Impact of Tsunami Devastation on Maruthamunai

This is a settlement at the coastal region of Ampara district , which caused to severe damages. The sea waves had entered to the interior of settlement to a distance of 1000 meters from the beach .The length of the village along the coastal belt is about one and half miles.



Tsunami waves had stuck up to a height of 20 feet. All most all the houses completely damaged to a breadth of 800 meters along the beach.

All sub cultures lived together in the seaside of Maruthamunai. Social order and organization of the settlement is destroyed. All most all the house units, religious buildings, public buildings, places of people are completely destroyed which were along the seaside towards north and south of the settlement.

In its micro level houses with identity , territoriality ,spirituality , belongingness, privacy, is lost. At macro level places of people , centers , enclosures and continuity is lost.

Thousands of families have taken refuge at schools, community centers , mosques and relatives houses.



Fig 2.6 Neelawanai the Tamils territory at north Saudhapuram



Fig 2.7 A completely damaged House at of Saudhapuram.

Fig 2.8 Data sheet of Tsunami Devastation at Maruthamunai

Extend	To the north from 22 ¼ mile to 23 ¾ mile ½ mile width from the beach to main road	
Area of settlment	½ Sq mile	
Population	21000	
Death Toll	1900	
Displaced No	12000	
Houses Damage	Completely Damaged -1300 Partly Damaged -1700	
Public Buildings Damage	Mosques	-03
	Schools	- 02
	Hospitals	- 02
	Other Public Buildings	-10

Source : Report of Muslim Information Center - Sri Lanka

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# PLACE MAKING IN RESETTLEMENTS

### 3.1 SPACE SOCIETY AND PLACE

Space in every simple sense can be defined as self contain entity and it is intangible to our senses. Space can only be identified or other word can be sensed by presence of material object in it. The sense of the space comes through the human relationship between the material object and human relationship with them. Empty space , man can not relate and perceive the dimension of the space such as location , distance , direction etc. Without material object , on the other word, in side a empty space man find it difficult to sense the space.

Concept of place always comes from concept of space .It is difficult to draw a margin dividing space and place. Since the place is a particular part of space, occupied by person or thing , so personalized space becomes a place. Space gives the dimension to the place and enables to organize the place to its static state. A place is also a space with particularities , so place is a defined space. People always developed interest in such kind of place even get attracted to the emotionally. So place has deeply rooted relationship between the humans and his living environment, other word the person's living environment is mainly consists of defined spaces. No human can exist without being in places, as he is inherently physically and psychologically related to it. Every man has his own relationship and memory of each place he experience. Place has root and history, which binds man with village or country he belongs to and gives him and his society a kind of identity. People and places can not be separated. It is people who can make places, where architecture could only create potential places. Only when people these potential places ,they become places.

### 3.2 SIGNIFICANCE OF PLACE MAKING

After a disaster situation the identity of place is lost and through the process of 'Place Making' social issues and their surrounding have to be sort out.

Societies may refuse settlements not in appreciated locations where they not found a 'sprit of place'. 'Place Making' have to re place lost places of people . It does not mean providing only the physical aspects , it should fulfill the social and psychological meaning of places. In this process, lost 'places' of former settlements should re collected re established .

'Perceived space is also the realm of direct emotional encounters, with the space of the earth, sea and sky or with built or orated spaces...' Nerberg Schutz - 1972 , p68

### 3.3 ATTRIBUTES OF PLACE

Certain common derivatives of place could be identified as the constituents of place. They could be claimed as the 'location' which comprises both physical and psychological attributes, 'activities' and 'meaning'. It could be also said that the combination of these could give rise to many intangible qualitative attributes of a place, out of which the character of place, Imageability of place and spirit of place.

#### 3.3.1 Character of Place

The character of a place is a result of manifestation of the built fabric. Usually character of a place depends on the way the physical elements of a built fabric are articulated.

Character can be identified as an important attribute of the identity of a place, which is a strong spatial quality peculiar to that place. Character is a conception of spaces, according to how they are being arranged with specific values, which people may identically perceive. The character of the place differs according to different cultural traditions, historical and natural conditions.

Character does not exist physically, but it is an essentially a result of physical arrangement of spaces. Therefore creation, preservation and maintenance of distinctive character in the human environment is an important quality when experienced by people.

#### 3.3.2 Imageability of Place

Man's understanding of the world is based on how he identifies his lived in world. He identifies his world in the form of images, which in turn build up his own world, which is true to himself. Places have the ability to evoke an image in the mind of the user. Imageability of a place can be defined as a necessary quality of a place, which is vividly identified, powerfully structured and highly meaningful in the mind of the user.

Imageability of place differs from one place to another, and creates a variety of different places with different characters. We use these images as reference to understand and respond to events, persons, characters and objects that exist in the environment we live. Imageability of a place and its contributes to a strong 'sense of belongingness'. An image once established, it intimately stays with the people. This helps people to experience a place even without actually being present in the context itself.



### 3.3.3 Spirit of Place

Spirit of place is an outcome of experience of places and their inherent characteristics. The essences of spirit depending on these spaces are their patterns of arrangements. The concept of spirit of place never changes from one place to another. Its essence is common since the attributes of it, as a spatial quality, stay in the experience of one or many places. However the spirit of place uplifts ones inner mind soul and it does not change from place to place. 'Spirit' is a quality of place, which very often exist in a hidden manner, unseen and untouched. It is a spatial quality that humanizes spaces, uplifts one, through the feelings generated by experience and provides man with a better bond with his own surroundings and uplifts his experience of places in an emotional manner.

### 3.3.4 Identity of people with Place

Relf identifies three basic elements, which constitute the identity of places. First is the physical settings of objects and buildings, second the activities of people within the physical context and the third is meanings and symbols, by the experiencing of these buildings and activities, which are meaningful. He claims these components to be the raw materials of the identity of place which have importance in establishing the identity of particular places.

Although it is possible to understand the nature of identity of places by considering its main components, still it could be said that identity is not a product of such components alone, but also socially structured. According to Relf, identity is a basic experience of places which both influences and influenced by those experiences. He also says that, it is not just the identity of a place that is important, but also the identity that a person or a group has with that place in particular. In other words, identity varies with the experiences of individuals, group or consensus image of the place. Indeed for most purposes it appears that the image of the place is its identity and that to understand something of the social structure, the understanding of images of that place is an essential prerequisite for understanding its identity.



Fig 3.1 Handloom sarong weaving mill at Maruthamunai



Fig 3.2 Drying coloured threads at Maruthamunai



### 3.4 RECONSTRUCTION OF SETTLEMENTS

Post disaster period, usually consist of three phases, namely emergency phase, rehabilitation phase and the reconstruction phase. Each phase is characterized by certain features and activities. The reconstruction phase concentrate on the restoration of lost opportunities and physical assets such as community infrastructure , which have been damaged . re construction is an essential part of rehabilitation of people, where the remaking of houses, buildings and places becomes vital tasks.

It is found that the communities displaced by disaster often reject the product give to them by the name of new settlements. The reasons could be many. The findings of the reasons to this occurrence would make it easy to identify the vital issues that should go into the process of reconstruction of settlements. Hence it would be important do discuss and identify reasons first. Before trying to discuss and examine the essential ingredients for reconstruction and the design process which should be adopted in the process of reconstructing a successful built environment.

#### 3.4.1 Disaster and Resettlements

Disasters, whether it is natural or man made, calls for reaction from the rest of the community, who have not been effected. One of the immediate and long term responses would be to think of the need for rehabilitation and resettlement. This would be done in order to basically help or assist the effected fined food and shelter . But in a much broader sense to bring back as much as possible , the normal life of people , taking off the agony and pain caused by the situation of disaster.

In this situation , there will be a number of mechanisms that will come in to play namely, social mechanism , among and within the community , administrative and political mechanism , religious mechanism etc. directly or in directly aimed at immediate and long term life, For which purpose some kind of reconstruction and rebuilding as to be put in place along with the rebuilding of buildings and structures there is also the essential rebuilding of confidence and strength , which is aimed at , and executed by various professional like the social scientists religious leaders and the politicians. but as far as the reconstruction of the built environment is concern , it becomes the vital task of the architects,.

Re construction of the built environment happens very much faster than the rest in a post disaster period. Because there is a great deal of contribution to aspect, because the people affected do not have a place to sit , a place to orientate from. The moment this is given to man effected , it creates a great deal of relief in him , that there is a roof over his head .



Homelessness and placelessness are two vital losses that man experiences, in and during a post disaster period. These are also vital issues that are connected with a loss of built environment by the act of disaster.

Resettlements normally happens in two processes, temporary kind of re settlements and long term kind of resettlement. Temporary reconstruction process has immediate intention of providing some kind of potential shelters, some kind of enclosures to protect the effected, which would give some short of encourage to their lives to start again. These temporary shelters, provided by the temporary reconstruction process are only to provide shelters to the homeless till relocation and permanent reconstruction decisions are implemented.

Temporary resettlement process, should not conclude, it should only a beginning of the process. But unfortunately it is proved beyond doubt that these temporary resettlement process has mostly become a failure, purely because they become the concluding effort of the process. These immediate and temporary reconstruction mechanisms systems and process become permanent. They eventually become the only reconstruction that take place. These situations create very uncomfortable very unhealthy environment which give rise to slum and shanty environments.

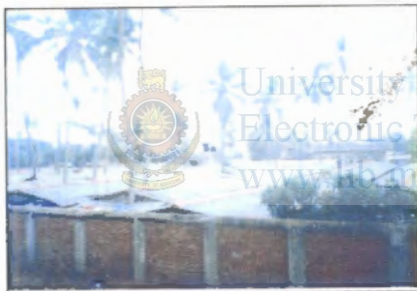


Fig 3.3 Temporary Settlement at Moratuwa



Fig 3.4 Temporary houses within the temporary settlement

Temporary structures provided by the temporary resettlement process has also proved to have been reused in many situations as additions to their permanent housing. Even after it had been provided. Many emergency shelters had been reused as kitchens storage etc. or their materials have been recycled.

Consequently, permanent reconstruction after disaster require a holistic and evolutionary approach to deal with variety of aspects, physical and non physicals of damaged settlement.

Permanent reconstruction could again, be slightly different to both, natural and man made disasters, It is clear that a reconstruction process do disaster caused by nature namely, earth quack, typhoons etc deals with a great deal of technicality. There aim is to provide more safe buildings, technically strong to resist future actions pf nature

In approaches to post disaster permanent resettlements, the rational and process adopted not only tasks many inputs but also differ situation to situation and country to country.



But anyhow there could be a few principals that could be derived , which would and could any reconstruction of post disaster situation. As far as the architects and the designers of the built environment are concerned , their vital task is not only to follow and go by the rules and nomes of the set rational , process and policies provided to them by the authorities, but analyze the situation and create the best possible environment for replacement of the displaced man.

### 3.5 PLACE MAKING PROCESS IN RESETTLEMENTS

#### 3.5.1 Home and Psychological Needs

Concept of a house has a deeply rooted attachment between man and place. Home defines the sense of place and create an environment to the human being that reflects its dwellers value. The house also reflects each person's social and cultural identity and individuality within the unit. House provides psychological comfort to the man. The psychical need or the need of the inner person is very much difficult to fulfill .

##### 3.5.1.1 Sense of Identity

It is very important that man identified himself and his place in the environment he live. That kind of understanding will always help him to be harmonized with his living environment. House forms, its interior and exterior decorative and personal possession are some mediums, which enables man to express his identity. In the case of built environment their identity lies on the physical features like its shape its volume its colour etc.

The lack of identity in the living environment would bring a lack of "sense of place". This lack of place; home or ones dwelling places would create anonymous environmental resulting in homelessness. Identity could not only result from individual self expression, but it come from collective notion based on class status , power and life style. Identity and territoriality are always interrelated. Demarcated territoriality of humans gives the sense of identity.

##### 3.5.1.2 Sense of Territoriality

People define spaces sometimes with visible boundaries and sometimes with invisible boundaries. This kind of visible and symbolic boundaries help him to gain sense of territory. This demarcated territories bring about a sense of security to the dwellers of that space. In the domestic environment the personal or primary territories are most applicable. These kinds of territories are normally permanent and center around ones everyday life.



#### 3.5.1.3 Sense of Privacy

Common element of the privacy are the control of unwanted inter personal interpretation and communication. Privacy is given different values in different methods are establish to safe guard against invasion of privacy. Lot of rules is established to govern access to ones territories. Privacy gives ones to be isolated from interactions. So privacy is also a basic human need. To secure the privacy limitation of access to this kind of territories is important.

#### 3.5.1.4 Sense of Belongingness

Since the house is man's territory in the society he likes to feel the belongingness in his house. He does not like to feel strange in his own house. when it comes to family living the strong bounding between family members provide the sense of belongingness. So in the strongly bonded family one does not feel stranger or in other word he feels the belongingness. Spaces in the house that cater to strong family bonding will immensely help to develop the sense of belongingness.

A person's sense of belongingness with a particular place depends on his behavioral pattern and association with that space.



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#### 3.5.1.5 House for Spirituality

House play a major role in spiritual character. It helps to develop spiritual qualities and carry good behavioral pattern to the society.

#### 3.5.1.6 Neighborhood as a Communal Residential Environment

Neighborhood is considered as essential for community living. That is not only an area or layout. The people who live together will make close relationship due to various reasons resulted by their environment and also behavior pattern. Neighborhood support services and facilities create and important bridge between the individual and society and it was the proper territorial base of a social supportive group , among whom there would be many personal contracts.

### 3.5.2 Reconstruction of Centers , Enclosures and Continuity

Place making in terms of centers, enclosures and continuity bear its own significant in aspects such as , cultural and ritualistic interpretations of each community .since of the loss of these aspects , due to disaster were considered vital in the design of re settlements , it would be important to examine how these principals would contribute to the designing aspects of reconstruction process, in order to re store the lost social and cultural wealth of the community.

#### 3.5.2.1 Reconstruction of Centers

Places according to Relph , can be understood as centers of meaning , or focus of attention and purpose. These meanings and functions vary according to various cultures. These places can be seen in many different ways , either clearly demarcated by a physical feature or a space enclosed by physical features .

Perception of man's space is subjectively centered, which means a point of reference in the environment .Mans life existence is always associated with this central point which gives him a certain sense of security and territoriality. This makes man to develop an emotional attachment to a central place .Thus it becomes his center of existence . Hence a place can be considered as a goal or foci , in mans experience, but it also a point of departure from which man orientates him self.

The prestige of the center is well established when a human group tend to regard their own home, home land, and region as a center of the world. Their social sentiments were associated with this central area. Thus they developed an emotional attachment to this area, and they identify it is a place as which represent their social values. In this sense , centers are places of individual or collective memory , which are celebrated. This is the point where man acquires this position in contrast to the unknown outside world.

Man , who belongs to a certain culture or ethnicity , of a certain village , town or a country , center becomes a point of reference to a man of a certain area.

After disasters, centers may not be there physically but may be there in the mind s of the people . In a reconstructed environment people would always warned the same places back, to which they were familiar with and to which they have their emotional attachments. This makes the recreations of centers vital. It also helps them to re gain their loss of social and cultural identity. This is the point where man accrues his positions back , in contrast to the unknown outside world he was placed in as a displaced person.

Centers would have existed at both micro and macro levels. In recreating places , it is important to know the vital centers, which existed before, and the centers that are there





in the minds of the people. This could provide vital inputs to the design process through the user surveys. Further in architectural terms , centers are focuses and are based on certain compositions of spaces in a micro level and composition of building in a macro level. These compositions become vital in the recreated design . Further the access and the hierarchy of the organization of the built fabric around the center to become vital in this aspect. The important fact here is that these centers refers to a specific culture , the one that should be restored by the process of re construction.

### 3.5.2.2 Reconstructing the Enclosures

The basic need for security and privacy are for man's existence. In this sense the basic property of man made place is the 'enclosure'. If the 'center' is the reference point of special experience, enclosure would judge the demarcation , making the experience possible. In a wider context, enclosure becomes an essential part in defining the territory of any place.

Distinctive quality of any man made place is enclosure , and its character and spatial properties are dominated by how it is enclosed. It may be manifested in less strict form as a dense cluster of elements or a continuous boundary enclosure could also emphasize the gathering function.

Basic need for security and privacy are the essential for man's existence, and also the basic property of man made his enclosure . Enclosures and boundaries likely to be effected due to damage caused to the built environment, by an act of disaster. Enclosures and boundaries are need to be brought in , when a center is created . Hence a One can not leave a wide expanse of space around it. Definitions are need very quickly to wrap those central areas, to remake the place less into possible places ,in reconstruction. The degree to which the enclosure has to happen , and in what way they should happens deepened on the history, what existed before and what is likely to happen now in that place. A decision has to be taken at this point , in relation to individual place as much as communal places.

Enclosures in architectural terms emphasis the boundary or the territoriality whether in a dwelling or a city .These enclosures could be in the form of a city wall , a composition of buildings, or a even a fence of a demarcation. Hence these factors should be identified and taken into consideration.



### 3.5.2.3 Reconstruction with continuity

Continuity serves to reinforce a sense of association and attachment to those places created and experienced by man. Place experience provides the sensation of the presence of significant functions of through the manifestation of the built environment. The theme of the social , cultural and their manifestations through the built environment along with the context have direct connection to the continuity.

Continuity can be maintained both physically as well as psychologically .Physical continuity is made possible through the manifestation of the arch type , unique to a certain place throughout its life , making the spatial organization meaningful. Further continuity in terms of popular architectural traditions of a particular era create building characters related to their historical usage. Thus identifying that particular place as distinctive from the rest of the places that's surrounds it. Thos in turn creates a psychological image in the users minds, which they would like to be continued forever. This would not only ensure identity, but also always create an environment familiar to them.

Disasters create a situation , where it brings a pose the continuity, making it essential to resume it. Since there has been a pose and a great need for rush to complete, people are more likely to reject modern things , which are not likely to belong to the circumstances .Hence a certain degree of a continually has to be brought in. This would enable man to relate to the past, ensure his identity, which he enjoyed earlier.

Continuity is something which is not always going to be visually present, it ism by memory links . more or less the people are made to be able to remember and this memory to re cultivated , in the new ones which are to come through re construction. In this sense , the identification of the unique character of the former place and the image that carried I the minds of the people becomes very important in ensuring continuity in the reconstructed product.

It was made clear that continuity ensures identity of a certain place. The pause created to continuity through the destruction of the built environment and its fabric make it lose the identity of a place. The loss of identity of a place makes it difficult for man to identify places of his own and also others identifying his place.

Hence it becomes a vital task in the design of the reconstruction process to identify and rebuild the urban fabric, which would together enable to restore the identify of that particular place. The identification of the physical components of the built fabric, symbols, images , character become important in order to restore the identity back.

Finally it could be summarized that , though a disaster physically destroys the vital centers and enclosures of that place creating a pause to the continuity , making the place to lose its identity , man still has very strong psychological links to those places , and stores them in his mind as image, which always portray a unique character. Hence man

fears to except anything new , which would not be familiar to the image. The mental picture he has in mind to which he has his physical and psychological links to root down his social and cultural identity.

Hence in the design process it becomes essential to understand the social structure , and the cultural of an area , the centers , which were highly used and celebrated, the image , they have in their minds , as an essential prerequisite to understand the unique identity of that place. For it to contribute to strong 'sense of belongingness' to the lived in world , the one he used to use and enjoy. In the design process , information on this aspects should be gathered in architectural terms such as the scale , proportions , rhythms , composition of the elements of the build fabric and also the land mark which were considered vital for that place. These could give input to the research stage of the design process, discussed in the previous chapter.

### 3.6 NEEDS , OPPORTUNITY AND POTENTIALS IN NEW SETTLEMENTS

Having introduced place and place making and the importance of it in the process of reconstruction , it should not appear that the reconstruction process has to only bring it back words , building back the same old places as the direct application. What is important is fact that while we also say that the sense of place and sense of home must be re cultivated and rebuilt , reconstruction must also give the opportunity to move forward. To consider reconstruction as a wonderful opportunity for development for a better living for the people effected since the money which was not available is made available now. For example clearing and ordering of haphazard development, reformation of the infrastructure facilities and transport net works creating new urban parks and green areas as breathing space and rebuild with the modern technology available could be possible to turn the event of disaster into a wonderful opportunity for creating better place for a better future.

Hence the need and potential of the reconstruction process have two basic ingredients. The need to belong to the past , and the Need to move to the future. This is indeed a difficult task , as they are two vital processors looking at two vital ends of the story. One looking at the past try to bring back identity , memories and stories that have been there and on the other hand looking at the future projecting into the future and reconstruct the build environment. This is the challenge which does not happen in many situations in the process of reconstructions. What is vital is the keeping of those characteristics as much as possible and at the same time span in to the future.



### REHOUSING THE TSUNAMI VICTIMS AT MARUTHAMUNAI

#### 4.1 POST TSUNAMI RELIEF AND REHABILITATION

Volunteer services soon after a disaster follow a pattern that includes three predictable phases ; emergency relief and recovery. Government sectors and other social organizations rushed to put up relief camps in devastated to provide temporary shelter to the tsunami victims.

The post tsunami relief and rehabilitation work in the devastated coastal region appears to be underway with the large scale participation of international agencies. However the governments role in putting on the track resettlement process in the tsunami ravaged coastal areas seem to have meet obstacles, primarily due to absence of a rational approach for relocation of the affected people. Rather ethnic based perception has further contributed to this confusion.

#### 4.2 INVOLVEMENT OF GOVERNMENT SECTOR

The government of Sri-Lanka has launched a major Restoration and Rehabilitation program in a bid to bring the country to a point of recovery from devastation effect of the Tsunami with assistance for international support.

##### 4.2.1 Relief Camps

Soon after disaster a particular government authority built a temporary settlement at the northern part of the Maruthamunai . (Fig 4.1 & 4.2 ).



Fig 4.1 Relief camp at northern part of Maruthamunai



Fig 4.2 Neighborhood in temporary settlement



#### 4.2.2 Reconstruct the Infrastructure

Government authorities have undertaken the tasks to reconstruct and develop road , water supply and drainage systems which is effected by the Tsunami.The beach side road of Maruthamunai is cleaned for fishing related day to day activities.( Fig 4.3 ).



Fig 4.3 Reconstruction of the beach side road

#### 4.2.3 Multistoried Housing Units for Tamil fisherman

The Ministry of Housing commenced the multistoried housing scheme project for tsunami victims at the Tamil territory of Neelawanai. This is situated at the north end of Maruthamunai settlement. ( Fig 4.4 ).



Fig 4.4 Far view of multistoried housing scheme at Tamil territory

Due to threat of terrorists and ethnic conflicts, could not reach the location for close up photography and direct interviews.

#### 4.2.4 Coastal Forest Planting

Saudhapuram is the northern end of the Maruthamunai settlement which is completely destroyed by the Tsunami. Due to threat of terrorists and ethnic conflicts Muslims refuse to dwell in this area. Social workers conform that sub cultures of weavers or fishermen do not except the proposals of multistoried housing system within the settlement. This land is used for Coastal forest plantation. ( Fig 4.5 ) .



Fig 4.5 Coastal forest plantation

#### 4.2.5 Government Schools in Temporary Buildings

Government filled the abandoned paddy field and built temporary structures for educations of the students. No any infrastructure facilities provided. Devastated Shums central college is shifted to this place and defense personals occupied at the school building . (Fig 4.6 ) .



Fig 4.6 Temporary school on a developed land

### 4.3 INTERVENTION OF SOCIAL ORGANIZATIONS

Charity organizations , international agencies and private donors pay their special attention and interest to housing the tsunami victims. Non state agencies offer funds to rebuild houses at destroyed settlement considering quantitative issues and urgently needed physical aspects.

#### 4.3.1 Houses for Fishermen

A particular NGO develop the land to construct houses for the victims. This land is located about 700 meters away from the beach. This location is not suitable for the sub culture of fishermen . Fishermen always engaged in fishing related activities out side the dwellings at beach. ( Fig 4.7 )



Fig 4.7 Develop the land , to build houses for fisher men

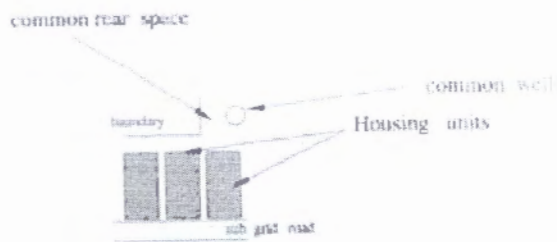
#### 4.3.2 Low cost dwelling units

A social organization building very small dwelling units at the settlement. No building regulations followed. Poor lighting and ventilation to the interior of the house.( Fig 4.8 & Fig 4.9).



Fig 4.8 Houses with poor light and ventilation





LAY OUT PLAN SCALE: One Chain = One Inch

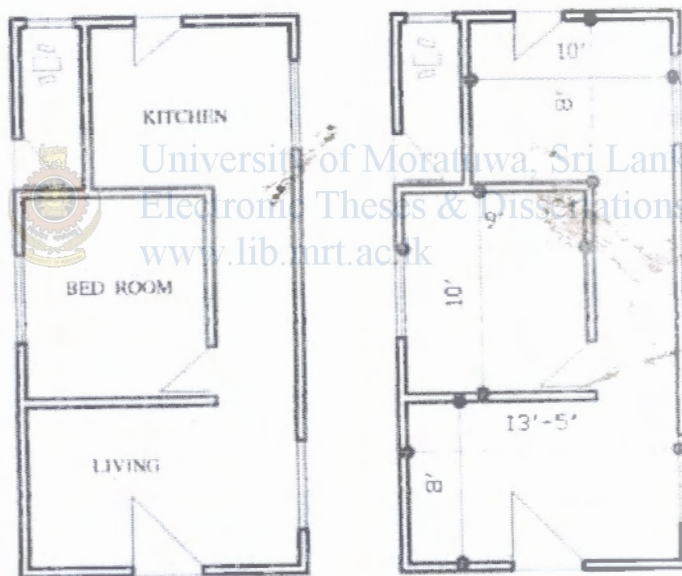


Fig 4 PLAN SCALE 1" = 8'

Fig 4.9 Plan of low cost house type



#### 4.3.3 Houses with no privacy

Rear bare land is a common space for all the dwelling units. No boundaries demarcated. A common well is provided for all the dwelling units. No territoriality or possession for inhabitation. No privacy for females. ( Fig 4.10 ).



Fig 4.10 Common rear land and well for neighbors

This dwelling units will be provided according to a certain procedure. Cluster house system completely ignored. 'Sense of belongingness' and 'sense of sense of enclosure' is totally absent.

#### 4.3.4 Houses with a Center with no Identity

A social organization provide houses near a mosque which is a center. A few houses has built .Plan , design and the finishes are same. 'Sense of Identity' is not visible. Plot demarcation can not be done around all the houses of this type. 'Sense of enclosure' and 'Sense of Territoriality' can not be achieved. ( Fig 4.11 ).



Fig 4.11 New houses near by a Mosque

#### 4.3.5 Continuity of Housing Units

A well established commercial company intends to construct and donate a considerable number of housing units at the same settlement at a division of Maruthamunai. (Fig 4.12).



Fig 4.12 Elevation to the road

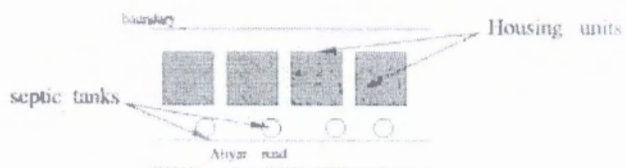
This type of house have a porch , a sitting hall with a toilet , a bed room , and a kitchen only. All the doors are opened from the sitting hall at front. Housing units are constructed in a series. All the housing units are same in its dimensions ,form and finishing. ( Fig 4.13 & 4.14 ).



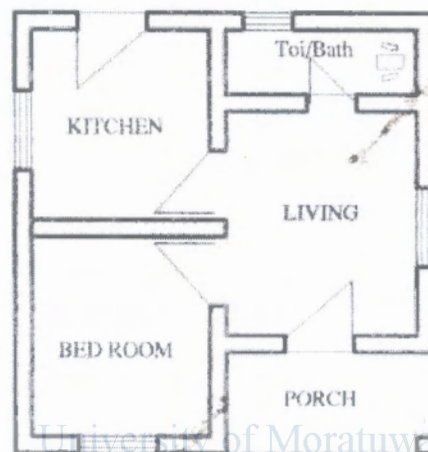
Fig 4.13 Interior of the house

Spiritual needs of Muslim community and privacy for female inhabitants is ignored. Inhabitation can not feel a 'Sense of identity' or 'Sense of belongingness' in this location.





LAY OUT PLAN SCALE: One Chitrin = One inch



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Fig. A. PLAN SCALE: 1" = 6'

Fig. 4.14 Plan of the House Type

This house type will not be suite to all the sub cultures of the settlement. A weaver need more space for his self employment , meanwhile other inhabittance need privacy and comfortable spaces. Due to lack of spaces inside , dwellers need extension of the house. They seek flexibility of design for 'Sense of belongingness'. ( Fig 4.15 & 4.16).



Fig 4.15 Living hall and the bed room



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Fig 4.16 Temporary extension of the house

These houses may constructed on the own property of the dwellers. Layout plan of this series of houses not follows the traditional cluster house pattern. The next door person or the immediate neighbor may not be a close relative.

#### 4.4 DISASTER VICTIMS ENGAGEMENT IN SELF PLACE MAKING PROCESS

Some settlers in tsunami devastated areas engaged in self place making process to rebuilt the lost places of them. Victims suffered for a long time in relief camps or temporary sheds. Most of the settlers need corporations from state sector and social organization to recover them lost aspects of both social and physical.

Disappointed victims after a long period of expectation, try to make their lost places there own. Victims of Maruthamunai seems to be back to their usual truck of life.

Weavers occupied in beach side to die & dry cotton threads. Hot sun & sea breeze are the natural resources, needed to dry the raw materials of sarong industry. Reoccupied in the boiler rooms to die the threads, which is destroyed by tsunami. A self employer weaves inside a cadjan shed remembering earliest settlers, weaving mills. ( Fig 4.17 - 4.20 ).



Fig 4.17 Drying cotton threads near the beach



Fig 4.18 Coloured threads exposed to the breeze and direct sun



Fig 4. 19 Re occupied in a devastated house for weaving industry



Fig 4.20 Weaving mill in a cadjan hut



Dwellers of cluster houses repaired and reoccupied in their own house. Boundary wall is destroyed by tsunami. Built up fence of cadjan on timber symbolizing the possession. Territoriality and 'sense of enclosure' is could be seen again. Inhabitation re achieved Sense of belongingness' and 'sense of possession'.( Fig 4.21 ).



Fig 4.21 Rebuilding enclosure

Tea stalls are the 'Commercial centers' in the settlement at beach side. Built up fence of G.I sheets on timber frame work demarcated the boundary shows the 'enclosure' and 'possession'. People gathered in this enclosed interesting space for playing cards and listen to radio. Fishing activities take place at beach side. Fishermen and customers gather to the tea stalls. Settlers have remade the 'Commercial center' at beach. ( Fig 4.22 & 4.23 ).



Fig 4.22 Tea stall



Fig 4.23 Commercial Center at beach side

Construction in progress at the junction ,where a grid and sub grids roads meets. Destroyed 'Continuity' of residential units will be reformed. ( Fig 4:24 ).



Fig 4.24 Rebuilding houses at a grid road junction

Banyan tree, Hidayah mosque premises , Shums college play ground and 'Spirit of place' at the Zam Zam road end bound with soul of settlers. Tsunami could not break the brotherhood or social bond . Settlers develop the place by the assistance of state authorities for informal gathering specially during evening hours and festival seasons to feel the 'spirit of place'. ( Fig 4.25 ).



Fig 4.25 Developing a 'spirit of place' after devastation

#### 4.4.1 Problems in Self Place making process

Government authorities in a favor to shift the settlement to a new location ,leaving a reservation belt along the beach . The settlers in this area will not be able to return to their ' territory'.

Due to ethnic conflict and terrorists activities , Muslim victims can not move to their own lands in Tamil territories and build a new settlement.



Abandoned paddy fields at the border of the Maruthamunai belongs to private sector. For purchasing the land and develop the lands need financial assistance . Land cost and filling cost is high.

Settlers are in a position to build temporary houses with commonly available cheap materials. But they have no lands.

Settlers need the consultancy services of designers to make their lost places in displaced area.



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## Concluding Remarks

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Maruthamunai is a settlement which is evolved through centuries at east coast with 'andorder' and 'organization'. The Muslim society in this settlement has peculiar characters and unique identities, which is absolutely different from other Muslim societies in the country.

People with very different attitudes and ideas respond to varied physical environments. These responses vary from place to place because of changes and differences in the interplay of social, cultural, ritual, economic, and physical factors.

Once the identity and character of a culture has been grasped, and some insights gained into its values, its choices among possible dwellings responses to both physical cultural variables become much clear. The specific characteristic of a culture the accepted way of doing things, the social unacceptable ways and the implicit ideals need to consider since the effect housing and settlement form.

The environment sought reflects many socio-cultural forces, including religious beliefs, family and clan structure, social organization, way of gaining a livelihood, and social relations between individuals. This is why solutions are much more varied than biological needs, technical device, and climatic conditions, and also why one aspect may be more dominant in one culture than it is others. Buildings and settlements are the visible expression of the relative importance attached to different aspects of life and varying ways of perceiving reality.

It is clear that the forms of houses in a village like this would be greatly affected if only through orientation. Ritual orientation of the house, which is found in many cultures, is a function of cultural and religious attitudes rather than the material factors. Religious ceremonial has almost always proceeded accompanied its foundation, erection and occupation. Rapoport, (1969: p 46 )

Homes at micro level and Places at a macro level are the reflection of the peoples cultural believes, social economic practices and aspirations, as well as their relation to the community and the environment.

It appears individuals or societies, psychological, social, or physical attribute to a locality under this conception 'place' becomes the spatial experience of a specific location including ones memories and kind of attachments to it. Dwelling is vital as the basic kind of reference point which is one most attach to it.

As Norberg Shcultz calls, mans deepest needs is to gain existential foothold. Man has always tried to satisfy his needs in different ways and it has been always associated with a definite physical environment with associated social and cultural activities giving him and his community a unique identity. Man can dwell when he can orientate him self with an identity himself with an environment. Mans identity depend on his belongingness to a



'place'. Spatial experience of these places makes man and his physical environment become attached, creating a deep sense of belonging. Hence it could be said that the destruction of the built environment creates an impact on man's belongingness to the place and his identity, calling for a re-establishment of his existential foothold.

The sudden occurrence of disaster without any warning, in a few seconds can wipe out an established human settlement. This could be a threat to human life and property and ultimately leading to confusion and suffering of human life.

Something called 'community based belongings'. This is a social and psychological impact, caused by the physical loss, as the structure of the social life, culture, identity of people are the outcome of the entire physical and non-physical belongings of the people of a community which gets affected by the act of disasters.

The events of disaster make people lose their 'Homes' and 'Places', and not mere buildings. 'Homelessness' and 'placelessness' are two vital losses that man experiences, in and during a post-disaster period. These are vital issues interconnected with loss of built environment.

Disaster of Tsunami waves on Sunday 26<sup>th</sup> December 2004 will be recorded as the worst natural disaster in the ever-known history of Sri Lanka. The monstrous tidal waves destroyed the Maruthamunai settlement in eastern province. Impact of Tsunami devastation at Maruthamunai is severe in its nature and magnitude than other affected areas in the island.

All sub-cultures lived together in the seaside of Maruthamunai. Social order and organization of the settlement is destroyed. Almost all the house units, religious buildings, public buildings, 'places' of people at macro context, completely destroyed which were along the sea side towards north and south of the settlement.

Account of impact of Tsunami on Maruthamunai portrays, how the disaster on the built environment has contributed to devastation of social, cultural, economical and political context of a society or region. In other words, built environment, which have very sensitive links to the above aspects, cause devastation, to bring an impact on the above mentioned factors.

The government of Sri-Lanka has launched a major Restoration and Rehabilitation program in a bid to bring the country to a point of recovery from devastation effect of the Tsunami with assistance for international support. The scale and direction of recovery and construction after disaster often very depending on type and expertise involve in it.

Social organizations, international agencies and private donors pay their special attention and interest to housing the tsunami victims. Non-state agencies offer funds to rebuild houses at destroyed settlement considering quantitative issues and urgently needed physical aspects.



Re housing the victims in new settlement, does not mean provide shelter or physical aspects for a society. Attention should pay on social issues and qualitative aspects of each settlement.

Each family that needs to re housed have their personal requirements, which should be fulfilled in the house, they get. Particularly for these communities the house needs to become a place from which their identity and their personal image can be reflected tot the out side. Thus the individualization is seen to be of utmost important while they need to be give hope, a 'place' of psychological comfort which physically shelters them.

Man has very strong psychological links to the places and stores them in his mind as images, which always portray a unique character. He fears to accept anything new which is not familiar to image. Mind has physical and psychological links to connect his social and cultural identity.

Observations have revealed in most of the situations resettlement plans were not successful. Societies may refuse settlements not in appreciated locations where they not found a 'sprit of place'. If they fail to dwell in it, those settlements will be abandoned .

In this sense ' Place making process' is the way to recreate the qualitative physical environment, which would reflect society and communicate the values of the society, which was lost. In the place making process the 'places' of people bear its own significance in aspects such as social, cultural and ritualistic interpretations of each society. Hence intervention of architects the professional of designers is essential in planning in order to restore the lost social and cultural wealth of the societies.

The settlers of Maruthamunai have faced many catastrophic situations in their history. Observations have revealed that settlers of Maruthamunai never moved out of the territory. They are again engaged in 'Self Place Making Process' at the destroyed settlement. Participation of the settlers is a vital issue in rebuilding the settlements.

In the mission of rebuilding the devastated settlements, settlers need the assistance of Architects for the best design solutions and Engineers services to designs the structures and select the materials to withstand for similar disasters in the future.

However this is a situation to re house the Tsunami victims soon as possible. In the process of rebuilding the settlement there is an opportunity to create a better-built environment provided with better infrastructure facilities enhancing social relevance and improving living standards following an 'ordered' development pattern.



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